

Notice of Allowability

Application No.

10/694,779

Examiner

David J. Steadman

Applicant(s)

TOMITA ET AL.

Art Unit

1656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 10/16/2006.
2. ☒ The allowed claim(s) is/are 19-23,25-27,29 and 33-38.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/901,884.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input checked="" type="checkbox"/> Other <u>Appendix A</u> . |

DETAILED ACTION

Status of the Application

[1] Claims 19-23, 25-27, 29, and 33-38 are pending in the application.

[2] Applicant's amendment to the claims, filed on 10/16/06, is acknowledged.

This listing of the claims replaces all prior versions and listings of the claims.

[3] Applicant's amendment to the specification, filed on 10/16/06, is acknowledged.

[4] Applicant's arguments filed on 10/16/06 in response to the Office action mailed on 5/16/06 have been fully considered and, in view of the claim amendment and Declaration under 37 CFR 1.132 filed on 10/16/06, the rejections and/or objections previously applied are withdrawn.

Examiner's Amendment to the Claims

[5] An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. William I. Solomon on 1/8/07.

[6] In claim 19, part 1(b), replace ---is combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 2 to 8 to form--- with ---when combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 2 to 8 forms---.

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[7] In claim 19, part 2(b), replace ---is combined with all individual proteins having the amino acid sequence each of SEQ ID NO: 1 and SEQ ID NOS: 3 to 8 to form--- with ---when combined with all individual proteins having the amino acid sequence each of SEQ ID NO: 1 and SEQ ID NOS: 3 to 8 forms---.

[8] In claim 19, part 3(b), replace ---is combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 1 to 2 and SEQ ID NOS: 4 to 8 to form--- with ---when combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 1 to 2 and SEQ ID NOS: 4 to 8 forms---.

[9] In claim 19, part 4(b), replace ---is combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 1 to 3 and SEQ ID NOS: 5 to 8 to form--- with ---when combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 1 to 3 and SEQ ID NOS: 5 to 8 forms---.

[10] In claim 19, part 5(b), replace ---is combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 1 to 4 and SEQ ID NOS: 6 to 8 to form--- with ---when combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 1 to 4 and SEQ ID NOS: 6 to 8 forms---.

[11] In claim 19, part 6(b), replace ---is combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 1 to 5 and SEQ ID NOS: 7 and 8 to form--- with ---when combined with all individual proteins having the

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amino acid sequence each of SEQ ID NOS: 1 to 5 and SEQ ID NOS: 7 and 8 forms---

[12] In claim 19, part 7(b), replace ---is combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 1 to 6 and SEQ ID NO: 8 to form--- with ---when combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 1 to 6 and SEQ ID NO: 8 forms---

[13] In claim 19, part 8(b), replace ---is combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 1 to 7 to form--- with ---when combined with all individual proteins having the amino acid sequence each of SEQ ID NOS: 1 to 7 forms---

Reasons for Allowance

[14] It is noted that a sequence search has been conducted only for a DNA of parts 1(a) and 1(b) of claim 19. The rationale for conducting a sequence search of only these DNAs is that claims 19 and 20 require SEQ ID NO:9 or a variant thereof that is at least 95% identical to DNA having the sequence of SEQ ID NO:9. Thus, if SEQ ID NO:9 or a variant thereof that is at least 95% identical to DNA having the sequence of SEQ ID NO:9 is free of the prior art of record, then it follows that a combination having SEQ ID NO:9 or a variant thereof that is at least 95% identical to DNA having the sequence of SEQ ID NO:9 is also free of the prior art of record. While it is acknowledged that there is no indication that claim 21 requires SEQ ID NO:9, it is noted that SEQ ID NO:9 is a fragment of

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SEQ ID NO:21 (see Appendix A) and thus if SEQ ID NO:9 is free of the prior art of record, then it follows that SEQ ID NO:21 is also free of the prior art of record.

[15] The following is an Examiner's statement of reasons for allowance. Claim 19 is drawn to a DNA comprising a combination of DNAs selected from Groups 1 to 8, *i.e.*, the DNA is required to have at least one DNA selected from all of Groups 1 to 8. See particularly applicant's clarification of the intended claim interpretation as set forth in the response filed 3/6/06 at pp. 3-4. While Sekine et al. teaches the isolation of a DNA encoding the F₀F₁-ATPase of *C. ammoniagenes* (Office action mailed on 5/16/06 at pp. 11-12), a Declaration under 37 CFR 1.132 has been filed to show that the invention was not "known or used by others" as required by 35 U.S.C. 102(a). Further, while the prior art teaches a DNA encoding an F₀F₁-ATPase from sources other than *C. ammoniagenes* (see, *e.g.*, Office action mailed on 5/16/06 at p. 13), there is no evidence of record that these DNAs satisfy the claim limitations.

[16] The examiner has found no teaching or suggestion in the prior art directed to a DNA as encompassed by claims 19-21. Therefore, the claimed invention, directed to a DNA comprising SEQ ID NO:9, 10, 11, 12, 13, 14, 15, and 16 or variants thereof as encompassed by the claims (claims 19-20) or a DNA comprising SEQ ID NO:21, a recombinant DNA, a transformant, and a method for producing a protein complex having F₀F₁-ATPase activity, is allowable over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should


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preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Steadman whose telephone number is 571-272-0942. The examiner can normally be reached on Monday to Friday, 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr Bragdon can be reached on 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David J. Steadman, Ph.D.
Primary Examiner
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APPENDIX A

100.0% identity in 912 residues overlap; Score: 912.0; Gap frequency: 0.0%

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9,          1 ATGTGCGACGGAGTCCGTAGCTGTGACAGAGAGTTTGAGACGTCCATCGCACCGTACGAC
21,        1387 ATGTGCGACGGAGTCCGTAGCTGTGACAGAGAGTTTGAGACGTCCATCGCACCGTACGAC
                *****

9,          61 GTCGACAATCGTACGGCCCGAACACGGGAGAGAACGCTGAGCGTTACAACATTGGCCATG
21,        1447 GTCGACAATCGTACGGCCCGAACACGGGAGAGAACGCTGAGCGTTACAACATTGGCCATG
                *****

9,          121 AAGGGTAGCTTCCACGCGCCCGAACTGGACCCAGAATTTTCCCGGGGCAATATTACGGC
21,        1507 AAGGGTAGCTTCCACGCGCCCGAACTGGACCCAGAATTTTCCCGGGGCAATATTACGGC
                *****

9,          181 GACATCCTGTTGACGATGTGTTGGGCGGATGGTTCGCACTTGATCGCATCATGCTGGTT
21,        1567 GACATCCTGTTGACGATGTGTTGGGCGGATGGTTCGCACTTGATCGCATCATGCTGGTT
                *****

9,          241 CGTCTGTTGATGACCGCCGCTCTGGTGCTTTTATTTATTGCAGCATTTAGGAACCCAAAG
21,        1627 CGTCTGTTGATGACCGCCGCTCTGGTGCTTTTATTTATTGCAGCATTTAGGAACCCAAAG
                *****

9,          301 CTGGTTCCTAAGGGACTACAGAACGTCGCAGAATACGCGTTAGATTTCGTCCGAATTCAC
21,        1687 CTGGTTCCTAAGGGACTACAGAACGTCGCAGAATACGCGTTAGATTTCGTCCGAATTCAC
                *****

9,          361 ATTGCTGAGGACATCCTGGGCAAGAAGGAGGGTCGTCGCTTCCTACCGTTGCTGGCGGCT
21,        1747 ATTGCTGAGGACATCCTGGGCAAGAAGGAGGGTCGTCGCTTCCTACCGTTGCTGGCGGCT
                *****

9,          421 ATCTTCTTCGGCACCCCTTTTCTGGAACGTCTCCACGATTATTCGGGCACTGAACATCTCC
21,        1807 ATCTTCTTCGGCACCCCTTTTCTGGAACGTCTCCACGATTATTCGGGCACTGAACATCTCC
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9, 481 GCAAACGCTCGTATTGGCATGCCTATTGTCTTGGCTGGCGCAGCGTATATCGCAATGATT
21, 1867 GCAAACGCTCGTATTGGCATGCCTATTGTCTTGGCTGGCGCAGCGTATATCGCAATGATT

9, 541 TACGCAGGCACCAAGCGCTATGGCTTCGGTAAGTACGTCAAGTCGTCGTTGGTTATTCTCT
21, 1927 TACGCAGGCACCAAGCGCTATGGCTTCGGTAAGTACGTCAAGTCGTCGTTGGTTATTCTCT

9, 601 AACCTTCCACCGGCTTTGCACTTGCTGGTTGTTCCAATTGAGTTTTTCTCGACCTTCATC
21, 1987 AACCTTCCACCGGCTTTGCACTTGCTGGTTGTTCCAATTGAGTTTTTCTCGACCTTCATC

9, 661 TTGCGTCCCGTCACTCTGGCAATTCGTCTTATGGCGAACTTCCTTGCCGGCCACATCATT
21, 2047 TTGCGTCCCGTCACTCTGGCAATTCGTCTTATGGCGAACTTCCTTGCCGGCCACATCATT

9, 721 TTGGTTCTGCTGTACTCTGCCACGAACTTCTTCTTCTGGCAGCTCAACGGCTGGACAGCG
21, 2107 TTGGTTCTGCTGTACTCTGCCACGAACTTCTTCTTCTGGCAGCTCAACGGCTGGACAGCG

9, 781 ATGTCCGGTGTGACCCTGCTCGCAGCGGTTCTGTTTACGGTCTACGAGATCATCATCATC
21, 2167 ATGTCCGGTGTGACCCTGCTCGCAGCGGTTCTGTTTACGGTCTACGAGATCATCATCATC

9, 841 TTCCTGCAGGCATACATCTTTGCTCTGCTGACGGCGGTGTACATCGAGTTGTCACTTCAC
21, 2227 TTCCTGCAGGCATACATCTTTGCTCTGCTGACGGCGGTGTACATCGAGTTGTCACTTCAC

9, 901 GCAGACTCGCAC
21, 2287 GCAGACTCGCAC
